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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,123

02/27/2006

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EXAMINER

HAUTH, GALEN H

ART UNIT

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1791

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DELIVERY MODE

10/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,123	Applicant(s) DE WINTER ET AL.	
	Examiner GALEN HAUTH	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 2,6,7,14,15,18-22,25,31 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8-13,16,17,23,24,26-30,32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/27/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-13, 16-17, 23-24, and 26-32 in the reply filed on 09/10/2008 is acknowledged. Applicant's election of species for the spraying of reactive material from page 3 paragraph 3 of the previous action is acknowledged. Applicant's amendment to the claims to add additional claims 33 and 34 is acknowledged and no new matter has been added. Applicant states that in light of the species and genus elections made in the reply filed on 09/10/2008, the following claims are eligible for examination: 1, 3-5, 8-13, 16, 17, 23, 24, 26-30, 32, and 33. Claims 2, 6-7, 14-15, 18-22, 25, 31, and 34 have been withdrawn from further consideration.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 3-5, 8, 11, 12, 23, 24, 26-30, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lammon (Pub No 2003/0042643) in view of Jourquin et al. (PN 5662996).

a. With regards to claim 1, Lammon teaches a method for forming panels (trim) for automobiles in which a thin skin, a plastic foam, and a substrate are formed together with the foam connected between the skin and substrate (§ 0002). Lammon teaches that the mold used contains two mold parts that are moveable with one another to form a mold cavity when closed, and that the thin skin and substrate are formed in the open position as well as the foamable material being placed between the two formed layers where polyurethane is foamed and cured in the closed position after which the mold is opened and the part is removed (§ 0005). Lammon does not teach that the substrate layer is formed from a spray process.

b. Jourquin teaches a method for forming a three layer polyurethane trim part comprising a flexible skin, polyurethane foam, and a rigid backing (abstract) similar to the one taught by Lammon. Jourquin teaches that the rigid backing substrate can be formed by either injection molding or spraying, and that spraying is a low pressure technique (col 4 ln 57-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to spray the rigid substrate of Lammon in the open mold, because spraying is an art recognized equivalent method of producing the rigid backing substrate and

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provides a low pressure method for applying the plastic which is safer than high pressure methods.

c. With regards to claim 3, Lammon teaches applying a flowable material to form the substrate to the second mold surface (§ 0005).

d. With regards to claim 4, Lammon teaches that the substrate layer can be made of any suitable plastic material, but does not explicitly teach using polyurethane. Jourquin teaches a method for making a three layer trim part (abstract) similar to the part taught by Lammon in which the rigid substrate layer is made from polyurethane (col 5 ln 5-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the substrate layer of Lammon with polyurethane as taught by Jourquin as such is an art recognized material for the rigid backing of automobile trim components.

e. With regards to claim 5, Lammon in view of Jourquin as applied to claim 1 above teaches using spray molding techniques to apply the rigid substrate layer.

f. With regards to claim 8, Lammon teaches applying a flowable material to the mold portion to form the flexible skin and reacting this material to harden to form the skin layer (§ 0029).

g. With regards to claim 11, Lammon teaches that the substrate layer includes fiber reinforcement to desired physical property or characteristic (§ 0046). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply more fiber reinforcement to areas of the trim

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part that experience more stress due to use in the vehicles and strain applied by attachment to the vehicle to protect the article from failure.

h. With regards to claim 12, Lammon teaches that the mold is formed by two halves that correspond to form a desired shape of a laminated part (¶ 0021).

i. With regards to claim 23, Lammon does not teach that there is a contact zone between the two outer layers when forming the composite part; however it would be obvious to one of ordinary skill in the art at the time the invention was made to have a contact zone between the two layers to ensure that the middle layer of foam was not visible around the edges of the composite trim panel as this would detract from the aesthetic value of the trim panel. As such Lammon does not teach a specific thickness of the skin or substrate layer; however Jourquin teaches that the typical thickness for the skin layer is 0.3-1.3 mm (col 4 ln 36-37). It would have been obvious to have a contact zone of at least the thickness of the skin layer so that a complete seal is formed simply by contacting the end of the skin layer to the rigid substrate resulting in a contact zone of 0.3-1.3 mm thick by 0.3-1.3 mm wide.

j. With regards to claim 24, Lammon does not teach that the two outside layers are not completely hardened when brought together for the foaming step; however it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the two outer layers not fully set in order to promote the adhesive abilities of the foam to secure the two outer layers together.

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k. With regards to claim 26, Lammon in view of Jourquin as applied to claim 23 above teaches that the sprayed skin layer is contacted to the substrate which would require a leading outside edge of thickness and width equal to at least the thickness of the skin itself of 0.3-1.3 mm.

l. With regards to claim 27, Lammon in view of Jourquin as applied to claim 23 above does not teach that the contact zone is heated to a higher temperature than the rest of the mold; however, this would have been obvious to one of ordinary skill in the art at the time the invention was made to ensure thorough curing and hardening of the area of the composite that seals the foam from the outside ensuring that there is a consistent product seal surrounding the trim part to prevent the part from being rejected.

m. With regards to claim 28, Lammon does not teach specific characteristics of the components; however Jourquin teaches that the flexural modulus of the substrate layer is 600 N/mm^2 (col 9 ln 13, 600 N/mm^2 is 600 MPa). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the rigid substrate characteristics taught by Jourquin in the substrate taught by Lammon as Lammon does not provide any specifics for the characteristics and Jourquin teaches a similar product with the same use. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a flexible skin layer with a modulus less than 100 MPa as Lammon refers to the layer being flexible (\P 0015) the degree to which is

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a result effective variable to the flexibility of the final product and the aesthetic touch characteristics of the product.

n. With regards to claim 29, Lammon does not teach specific characteristics of the components; however Jourquin teaches that the foam layer thickness is equal to 2 to 3 mm (col 1 ln 33-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the foam layer characteristics taught by Jourquin in the foam taught by Lammon as Lammon does not provide any specifics for the characteristics and Jourquin teaches a similar product with the same use.

o. With regards to claim 30, Lammon does not teach specific characteristics of the components; however Jourquin teaches that the skin layer density is equal to 450 grams per liter (col 6 ln 45, 450 grams per liter is equal to 450 kilograms per cubic meter). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the skin layer characteristics taught by Jourquin in the skin layer taught by Lammon as Lammon does not provide any specifics for the characteristics and Jourquin teaches a similar product with the same use.

p. With regards to claim 32, Lammon does not teach specific characteristics of the components; however Jourquin teaches that the skin layer thickness is equal to 0.3-1.3 mm (col 4 ln 36-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the skin layer characteristics taught by Jourquin in the skin layer taught by Lammon as

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Lammon does not provide any specifics for the characteristics and Jourquin teaches a similar product with the same use.

q. With regards to claim 33, Lammon teaches that the skin layer reactive mixture is sprayed onto the mold surface (¶ 0029).

5. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lammon (Pub No 2003/0042643) in view of Jourquin et al. (PN 5662996) as applied to claim 8 above, and further in view of Takahashi et al. (PN 4904429).

a. With regards to claims 9 and 10, Lammon in view of Jourquin as applied to claim 8 above teaches a method for forming a composite trim panel from two mold halves joined together in a molding process with foam between the two formed substrates, but does not teach that there is an electrical or mechanical component embedded in the material of the substrate layer that connects to the back of the trim part.

b. Takahashi teaches a method for including an electrical part in a panel for a vehicle in which the electrical part is embedded in the panel (abstract).

Takahashi teaches that the electrical part is embedded by including the part in two parts mounted to two opposite mold portions that come together to connect and the electrical component is surrounded by foamable material (col 2 ln 61- col 3 ln 10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to embed each piece of the two part system in the respective layer formed in each piece of the two part mold to form the complete electrical system when brought together in the process taught by Lammon,

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because doing so allows for the embedment of necessary electrical components in the trim part in one integral process step.

6. Claims 13, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lammon (Pub No 2003/0042643) in view of Jourquin et al. (PN 5662996) as applied to claim 1 above, and further in view of Shockey (PN 3516117).

a. With regards to claim 13, Lammon teaches that the efficiency of the process can be increased through the use of successive work stations for the mold parts (§ 0041). Lammon does not teach that the mold parts are separated from one another and joined at a point in the work station progression and later separated again.

b. Shockey teaches a method for circuit workstation molding in which two endless conveyors process laminates in which two sides are adhered by injecting material between them (col 1 ln 11-25). Shockey addresses an efficiency problem of circuit molding to use separately movable mold halves processed simultaneously on endless circuits to increase output of final composite products as seen in the figure below where separate mold halves are moved simultaneously through successive work stations, are brought together to form the product and are separated once the product is formed.

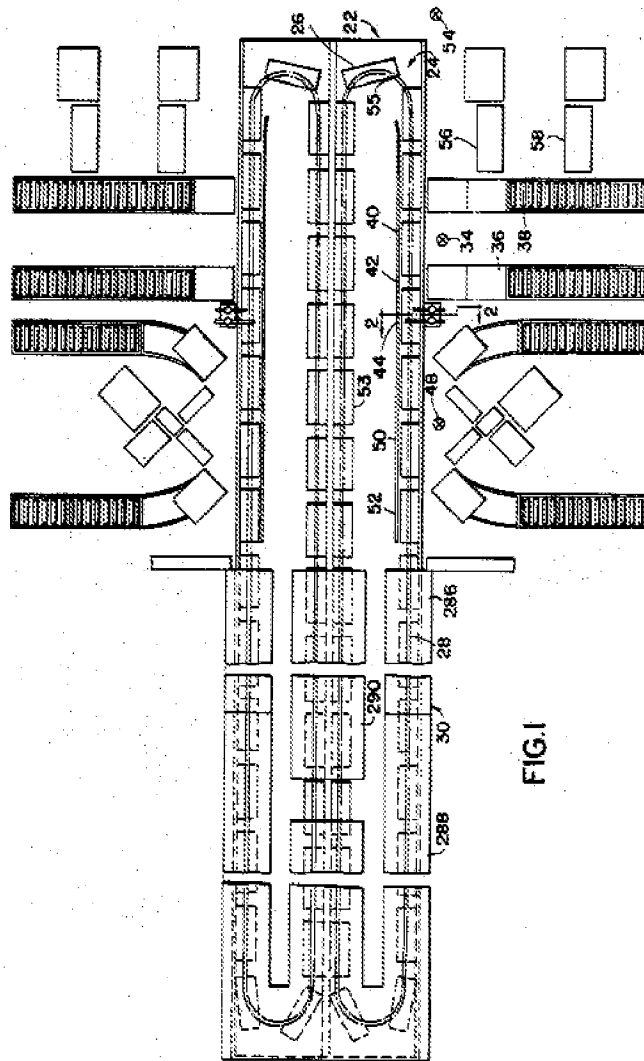


FIG. 1

c. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the efficiency increasing molding circuit design of Shockey in the molding method of Lammon, because doing so allows for increased productivity and efficiency of the molding system.

d. With regards to claim 16, Shockey teaches moving both mold halves simultaneously along the corresponding endless workstation circuits as seen in the figure above.

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e. With regards to claim 17, Shockey teaches using corresponding loops containing multiple molds of each type as seen in the figure above. With regards to the limitation of a workstation capable of replacing one mold component with a different mold component, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a workstation capable of replacing mold parts in order to ensure product consistency if there was a problem with one of the mold halves such as fouling, cracking, or some other problem that would result in an erred product.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 9, 10, 11, 17, 23, 24, 26, 27, 28, 29, 30, 32, 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9, 11, 17, 23, 28, 29, 30, and 32 recite the word “preferably” to attempt to further define a specific characteristic of the invention. It is unclear whether the applicant intends for this further defined range to be a positive limitation on the claimed invention.

Conclusion

9. Prior art cited by not relied upon: Debaes et al. (PN 5116557), discusses forming three layer foam core objects by spraying two layers to opposite mold surfaces, combining them and filling the core with foam.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALEN HAUTH whose telephone number is (571)270-5516. The examiner can normally be reached on Monday to Thursday 8:30am-5:00pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GHH/

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791